FILE 'MEDLINE, CAPLUS, EMBASE, BIOSIS' ENTERED AT 13:15:22 ON 18 OCT 2001

L1	15940	S C398? OR 8F4 OR ICOS OR H4 OR AILIM OF F44
L2	1621	S L1 AND ANTIBOD?
L3	59	S L2 AND CD28
L4	28	DUP REM L3 (31 DUPLICATES REMOVED)
L5	16028	S C398? OR 8F4 OR ICOS OR H4 OR AILIM OR F44
L6	1453	S L5 (P) ANTIBOD?
L7	152	S L5 AND CD28
L8	20	S L7 AND PY<2000
L9	11	DUP REM L8 (9 DUPLICATES REMOVED)
L10	12	S C398.4A (P) ANTIBOD?
L11	4	S F44 (P) ANTIBOD?
L12	8	S 8F4 (P) ANTIBOD?
L13	4	DUP REM L10 (8 DUPLICATES REMOVED)
L14	1	DUP REM L11 (3 DUPLICATES REMOVED)
L15	4	DUP REM L12 (4 DUPLICATES REMOVED)
L16	168	S JTT
L17	11	S L16 AND ANTIBOD?
L18	8	DUP REM L17 (3 DUPLICATES REMOVED)

L13 ANSWER 1 OF 4 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 2001103128 MEDLINE
DOCUMENT NUMBER: 20545231 PubMed ID: 11093165
TITLE: The T cell activation molecule H4 and the CD28-like molecule ICOS are identical.
AUTHOR: Buonfiglio D; Bragardo M; Redoglia V; Vaschetto R; Bottarel F; Bonissoni S; Bensi T; Mezzatesta C; Janeway Jr C A; Dianzani U
CORPORATE SOURCE: Department of Medical Sciences, "A. Avogadro" University of Eastern Piedmont at Novara, Novara, Italy.
SOURCE: EUROPEAN JOURNAL OF IMMUNOLOGY, (2000 Dec) 30 (12) 3463-7. Journal code: EN5. ISSN: 0014-2980.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200101
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010126

AB The recently cloned CD28-like molecule ICOS displays striking similarities with H4, characterized some years ago in the mouse and recently in humans.

Both molecules are selectively expressed by activated and germinal center T cells, display similar structure, and display co-stimulatory activities.

H4 displays lateral association with the CD3/TCR and is expressed by mature thymocytes. In the mouse, H4 is also expressed at high levels by thymic NKT cells that are resistant to negative selection. The aim of this work was to evaluate whether H4 and ICOS are the same molecule using the **C398.4A** (binding human and mouse H4) and F44 (binding human ICOS) monoclonal **antibody** (mAb) in parallel experiments on human T cells. ICOS and H4 displayed the same expression pattern in a panel of T cell lines and the same expression kinetics in phytohemagglutinin-activated T cells. **C398.4A** completely blocked cell staining by F44, whereas F44 partially blocked **C398.4A**. H4 and ICOS immunoprecipitates displayed identical SDS-PAGE patterns and H4 immunoprecipitation completely removed ICOS from cell lysates. Finally, the **C398.4A** mAb specifically stained cells transfected with the human or mouse ICOS. These data prove that H4 and ICOS are the same molecule and that F44 and **C398.4A** bind partially different epitop

L13 ANSWER 2 OF 4 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 1999438042 MEDLINE
DOCUMENT NUMBER: 99438042 PubMed ID: 10508261
TITLE: Characterization of a novel human surface molecule selectively expressed by mature thymocytes, activated T cells and subsets of T cell lymphomas.
AUTHOR: Buonfiglio D; Bragardo M; Bonissoni S; Redoglia V; Cauda R;
Zupo S; Burgio V L; Wolff H; Franssila K; Gaidano G; Carbone A; Janeway C A Jr; Dianzani U
CORPORATE SOURCE: Department of Medical Sciences, A. Avogadro" University of Eastern Piedmont at Novara, Novara, Italy.
SOURCE: EUROPEAN JOURNAL OF IMMUNOLOGY, (1999 Sep) 29 (9) 2863-74. Journal code: EN5; 1273201. ISSN: 0014-2980.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199910
ENTRY DATE: Entered STN: 20000111
Last Updated on STN: 20000111
Entered Medline: 19991026

AB We have previously characterized mouse H4 (mH4), a surface glycoprotein recognized by the **C398.4A** monoclonal **antibody**
. We now show that **C398.4A** also binds its human putative homolog (hpH4). Both hpH4 and mH4 (1) are selectively expressed by activated T cells and mature thymocytes, (2) are disulfide-linked dimers of two chains (29/37 kDa in humans, 25/29 kDa in mice), whose N-deglycosylation produces a single band at 20 - 21 kDa, and (3) display a
low association with CD4 and the TCR. The expression pattern of hpH4 and its biochemical features showed that it is different from other known activation molecules, and this was confirmed when analysis of the tryptic digest of the hpH4 29-kDa band by peptide mass searching using matrix-assisted laser desorption ionization mass spectrometry did not reveal any significant homology with other molecules. In normal lymphoid tissue, hpH4 is expressed by T cells located at the periphery of lymph node germinal centers and paracortical areas. In T cell neoplasia, expression of hpH4 clusters with a subset of peripheral T cell lymphomas with a large-cell component, and with cases of angioimmunoblastic T cell lymphomas. Overall, these data provide evidence for a novel T cell activation molecule that could help in the phenotypic categorization of T cell malignancies.

L13 ANSWER 3 OF 4 MEDLINE DUPLICATE 3

ACCESSION NUMBER: 97080624 MEDLINE
DOCUMENT NUMBER: 97080624 PubMed ID: 8921969
TITLE: Characterization of H4: a mouse T lymphocyte activation molecule functionally associated with the CD3/T cell receptor.
AUTHOR: Redoglia V; Dianzani U; Rojo J M; Portoles P; Bragardo M; Wolff H; Buonfiglio D; Bonissoni S; Janeway C A Jr
CORPORATE SOURCE: Divisione Universitaria di Ematologia, Dipartimento di Medicina e Oncologia Sperimentale, Universita di Torino, Italy.
CONTRACT NUMBER: AI-26810 (NIAID)
SOURCE: EUROPEAN JOURNAL OF IMMUNOLOGY, (1996 Nov) 26 (11) 2781-9. Journal code: EN5; 1273201. ISSN: 0014-2980.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199701
ENTRY DATE: Entered STN: 19970128
Last Updated on STN: 19970128
Entered Medline: 19970108

AB The monoclonal **antibody C398.4A** was produced by immunizing Armenian hamsters with the mouse T cell clone D10.G4.1. It recognizes a molecule selectively expressed by activated mouse T cells and was named H4. H4 is expressed on the T cell surface about 24 h after activation and peaks at day 7. By contrast, it is not expressed by resting or activated B cells, macrophages, or fibroblasts. It is also expressed by CD4 or CD8 single-positive mature thymocytes. Immunoprecipitation showed that H4 is a disulfide-linked dimer, precipitating as a broad band at about 50-65 kDa under nonreducing conditions and at 25 and 29 kDa under reducing conditions. Deglycosylation of the reduced H4 by N-glycanase gave rise to a single band of about 21 kDa, suggesting that the two chains may be differentially glycosylated forms of the same protein. The H4 expression pattern and biochemical features, together with cross-blocking, co-capping, co-modulation, and immunoprecipitation preclearing experiments showed that H4 is different from other known co-stimulatory molecules such as CD69, CD2, Ly-6, CD25, OX-40, Mac-1 and LFA-1. By in vitro kinase assay, H4 was found to co-precipitate a tyrosine kinase activity that phosphorylated substrates of about 29 and 25 kDa. Co-modulation and co-capping experiments showed that H4 is physically associated with the CD3/T cell receptor. These data suggest that H4 may function as a T cell-specific co-stimulatory molecule and play a role in the T cell response when the activation stimulus is limited either because the antigen is only available in low concentration or has a low agonistic activity.

L13 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1997:49620 CAPLUS
DOCUMENT NUMBER: 126:102759
TITLE: H4: a new molecule for murine activation associated with CD3/TCR and tyrosine kinase activity
AUTHOR(S): Redoglia, V.; Bragardo, M.; Buonfiglio, D.; Bergamo, A.; Rojo, J.; Janeway, C. A.; Dianzani, U.
CORPORATE SOURCE: Dipartmento Medicina Oncologia Sperimentale, Univ. Torino, Italy
SOURCE: Immunol. 95, Atti Congr. Naz. Soc. Ital. Immunol. Immunopatol., 14th (1995), 295-299. Editor(s): Dammacco, Franco. Monduzzi Editore: Bologna, Italy. CODEN: 63WGAL
DOCUMENT TYPE: Conference
LANGUAGE: Italian

AB The authors obtained a monoclonal **antibody C398.4A** following the immunization of Armenian hamsters with the Th2 murine clone D10. The **C398.4A** recognized a surface mol., named H4, which is expressed selectively on activated T cells and mature thymocytes CD3bright single-pos. for CD4 or CD8. H4 is a dimer of 25 and 29 KDa, that following deglycosylation produces a single band at 21 KDa. H4 co-ppts. with a tyrosine kinase activity of 56-59 KDa. The co-capping and co-modulation expts. demonstrated that H4 is possibly phys. assocd. with the CD3/TCR complex on the T cell surface.

L14 ANSWER 1 OF 1 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 2001103128 MEDLINE
DOCUMENT NUMBER: 20545231 PubMed ID: 11093165
TITLE: The T cell activation molecule H4 and the CD28-like molecule ICOS are identical.
AUTHOR: Buonfiglio D; Bragardo M; Redoglia V; Vaschetto R; Bottarel F; Bonissoni S; Bensi T; Mezzatesta C; Janeway Jr C A; Dianzani U
CORPORATE SOURCE: Department of Medical Sciences, "A. Avogadro" University of Eastern Piedmont at Novara, Novara, Italy.
SOURCE: EUROPEAN JOURNAL OF IMMUNOLOGY, (2000 Dec) 30 (12) 3463-7. Journal code: EN5. ISSN: 0014-2980.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200101
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010126

AB The recently cloned CD28-like molecule ICOS displays striking similarities with H4, characterized some years ago in the mouse and recently in humans.

Both molecules are selectively expressed by activated and germinal center T cells, display similar structure, and display co-stimulatory activities.

H4 displays lateral association with the CD3/TCR and is expressed by mature thymocytes. In the mouse, H4 is also expressed at high levels by thymic NKT cells that are resistant to negative selection. The aim of this work was to evaluate whether H4 and ICOS are the same molecule using the C398.4A (binding human and mouse H4) and **F44** (binding human ICOS) monoclonal **antibody** (mAb) in parallel experiments on human T cells. ICOS and H4 displayed the same expression pattern in a panel of T cell lines and the same expression kinetics in phytohemagglutinin-activated T cells. C398.4A completely blocked cell staining by **F44**, whereas **F44** partially blocked C398.4A. H4 and ICOS immunoprecipitates displayed identical SDS-PAGE patterns and H4 immunoprecipitation completely removed ICOS from cell lysates. Finally, the C398.4A mAb specifically stained cells transfected with the human or mouse ICOS. These data prove that H4 and ICOS are the same molecule and that **F44** and C398.4A bind partially different epitopes

L18 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2001:167838 CAPLUS
DOCUMENT NUMBER: 134:221432
TITLE: Remedies for immunological diseases
INVENTOR(S): Tezuka, Katsunari; Watanabe, Yoshihiro; Abe, Ryo
PATENT ASSIGNEE(S): Japan Tobacco Inc., Japan
SOURCE: PCT Int. Appl., 144 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001015732	A1	20010308	WO 2000-JP5868	20000830
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
BR 2000007047	A	20010731	BR 2000-7047	20000830
EP 1125585	A1	20010822	EP 2000-956800	20000830
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
NO 2001002105	A	20010629	NO 2001-2105	20010427

PRIORITY APPLN. INFO.:		
JP 1999-242672	A	19990830
JP 2000-254680	A	20000824
JP 2000-2000254680	A	20000824
WO 2000-JP5868	W	20000830

AB It has been found out that **antibodies** against AILIM (also called **JTT**-1 antigen, **JTT**-2 antigen, ICOS and 8F4) exert significant therapeutic effects on joint diseases such as articular rheumatism and arthritis deformans, graft-vs.-host disease, transplantation immunol. rejection, inflammation (hepatitis, inflammatory diseases, etc.) and symptoms in assocn. with immune sensitization by a foreign antigen and the thus induced hyperprodn. of an **antibody** against the antigen.

L18 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:553593 CAPLUS
DOCUMENT NUMBER: 133:176161
TITLE: Novel polypeptides involved in immune response
INVENTOR(S): Yoshinaga, Steven Kiyoshi
PATENT ASSIGNEE(S): Amgen Inc., USA
SOURCE: PCT Int. Appl., 174 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000046240	A2	20000810	WO 2000-US1871	20000127
WO 2000046240	A3	20001221		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-244448 A2 19990203
US 1999-264527 A2 19990308

AB Novel polypeptides which comprise a receptor-ligand pair involved in T-cell activation are disclosed. The polypeptides are CD28-related protein 1 or CRP1 and B7-related protein 1 or B7RP1. Nucleic acid mols. encoding said polypeptides, and vectors and host cells for expressing same are also disclosed. The polypeptides, or agonists and antagonists thereof, are used to treat T-cell mediated disorders.

L18 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:676482 CAPLUS
DOCUMENT NUMBER: 133:349067
TITLE: Identification and Characterization of Rat AILIM/ICOS,
a Novel T-Cell Costimulatory Molecule, Related to the CD28/CTLA4 Family
AUTHOR(S): Tezuka, Katsunari; Tsuji, Takashi; Hirano, Daisuke; Tamatani, Takuya; Sakamaki, Kazuhiro; Kobayashi, Yuko;
Kamada, Masafumi
CORPORATE SOURCE: Pharmaceutical Frontier Research Laboratories, JT Inc., Kanazawa-ku, Yokohams, Kanagawa, 236-0004, Japan
SOURCE: Biochem. Biophys. Res. Commun. (2000), 276(1), 335-345
CODEN: BBRCA9; ISSN: 0006-291X
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Activation-inducible lymphocyte immuno-mediatory mol. (AILIM) is an inducible cell surface glycoprotein expressed on thymocytes and activated lymphocytes. Specific monoclonal **antibody** to rat AILIM induced the cell aggregation of a rat thymoma cell line and ConA-activated splenocytes. In the present study, the authors identified the primary structure of two species of rat AILIM by expression cloning. The authors also cloned mouse and human AILIM homologs and the predicted amino acid sequences were identical to those of the inducible costimulator ICOS/CRP-1, which belongs to the CD28/CTLA4 family. Although the human and mouse AILIM/ICOS mol. is localized on T-cells, the major population of AILIM/ICOS-pos. cells in rat spleen was CD45RA-pos. B-cells. The expression level of AILIM/ICOS on T-cells was relatively low; however, its expression was drastically induced by the treatment with PMA plus Ca-ionophore or the engagement of CD3 and these costimulatory mols. Almost all T-cells exhibited potency as to its expression. Functional anal. of AILIM/ICOS demonstrated that AILIM-mediated costimulation was relatively weak compared to that of human. (c) 2000 Academic Press.
REFERENCE COUNT: 35
REFERENCE(S):
(1) Azuma, M; Nature 1993, V366, P76 CAPLUS
(2) Damle, N; J Immunol 1992, V148, P1985 CAPLUS
(4) Freeman, G; Science 1993, V262, P909 CAPLUS
(5) Gross, J; J Immunol 1992, V149, P380 CAPLUS
(6) Hara, T; EMBO J 1992, V11, P1875 CAPLUS

L18 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:222955 CAPLUS
DOCUMENT NUMBER: 130:266358
TITLE: T cell-costimulating protein and cDNA and diagnostic and therapeutic methods
INVENTOR(S): Kroczek, Richard
PATENT ASSIGNEE(S): Bundesrepublik Deutschland Letztvertreten Durch Den Direktor Des Robert-Koch, Germany
SOURCE: PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9915553	A2	19990401	WO 1998-DE2896	19980923
WO 9915553	A3	19990520		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 19821060	A1	19990415	DE 1998-19821060	19980511
AU 9913320	A1	19990412	AU 1999-13320	19980923
EP 1017723	A2	20000712	EP 1998-956800	19980923
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001517425	T2	20011009	JP 2000-512857	19980923

PRIORITY APPLN. INFO.: DE 1997-19741929 A 19970923
DE 1998-19821060 A 19980511
WO 1998-DE2896 W 19980923

AB A protein with a T cell-costimulating biol. activity, monoclonal **antibodies** against said protein and hybridoma cells which produce the monoclonal **antibodies**, the therapeutic use of substances which inhibit the biol. activity of the protein, and the diagnostic use of substances which bind to the protein or nucleic acid are disclosed. The T cell-costimulating protein is expressed on activated CD4+- and CD8+-expressing T cells. It consists of two proteins with mol. wt. 27-29 kilodaltons. This costimulatory protein differs from CD28 in that it is induced, not constitutive. Addnl., costimulation through this protein leads to increased expression of lymphokines, but not interleukin 2.

L18 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:98548 CAPLUS
DOCUMENT NUMBER: 130:280500
TITLE: ICOS is an inducible T-cell co-stimulator structurally and functionally related to CD28
AUTHOR(S): Hutloff, Andreas; Dittrich, Anna M.; Beier, Katja C.; Eljaschewitsch, Barbara; Kraft, Regine; Anagnostopoulos, Lonnis; Kroczek, Richard A.
CORPORATE SOURCE: Molecular Immunology, Robert Koch-Institut, Berlin, 13353, Germany
SOURCE: Nature (London) (1999), 397(6716), 263-266
CODEN: NATUAS; ISSN: 0028-0836
PUBLISHER: Macmillan Magazines
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The T-cell-specific cell-surface receptors CD28 and CTLA-4 are important regulators of the immune system. CD28 potently enhances those T-cell functions that are essential for an effective antigen-specific immune response, and the homologous CTLA-4 counterbalances the CD28-mediated signals and thus prevents an otherwise fatal overstimulation of the lymphoid system. Here the authors report the identification of a third member of this family of mols., inducible co-stimulator (ICOS), which is a homodimeric protein of relative mol. mass 55,000-60,000 (Mr 55K-60K). Matching CD28 in potency, ICOS enhances all basic T-cell responses to a foreign antigen, namely proliferation, secretion of lymphokines, upregulation of mols. that mediate cell-cell interaction, and effective help for **antibody** secretion by B cells. Unlike the constitutively expressed CD28, ICOS has to be de novo induced on the T-cell surface, does not upregulate the prodn. of interleukin-2, but superinduces the synthesis of interleukin-10, a B-cell-differentiation factor. In vivo, ICOS is highly expressed on tonsillar T cells, which are closely assocd. with B cells in the apical light zone of germinal centers, the site of terminal B-cell maturation. The authors' results indicate that ICOS is another major regulator of the adaptive immune system.

REFERENCE COUNT: 31
REFERENCE(S):
(2) Aruffo, A; Proc Natl Acad Sci USA 1987, V84, P8573 CAPLUS
(3) Brunet, J; Nature 1987, V328, P267 CAPLUS
(4) Chambers, C; Curr Opin Immunol 1997, V9, P396 CAPLUS
(5) Choe, J; Eur J Immunol 1998, V28, P508 CAPLUS
(6) Cordell, J; J Histochem Cytochem 1984, V32, P219 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:608643 CAPLUS
DOCUMENT NUMBER: 129:229678
TITLE: Cell surface molecule mediating cell adhesion and signal transmission
INVENTOR(S): Tamatani, Takuya; Tezuka, Katsunari
PATENT ASSIGNEE(S): Japan Tobacco Inc., Japan
SOURCE: PCT Int. Appl., 149 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9838216	A1	19980903	WO 1998-JP837	19980227
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
JP 11029599	A2	19990202	JP 1998-62217	19980226
AU 9861185	A1	19980918	AU 1998-61185	19980227
AU 732378	B2	20010426		
BR 9807788	A	20000215	BR 1998-7788	19980227
EP 984023	A1	20000308	EP 1998-905708	19980227
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
NO 9904146	A	19991027	NO 1999-4146	19990826

PRIORITY APPLN. INFO.: JP 1997-62290 A 19970227
JP 1998-62217 A 19980226
WO 1998-JP837 W 19980227

AB A novel cell surface mol. recognized by a monoclonal **antibody**, which is expressed specifically in thymocytes, lymphocytes activated by ConA-stimulation, peripheral blood lymphocytes, and has been found out from among monoclonal **antibodies** against cell surface mols. in lymphocytic cells having important roles in autoimmune diseases and allergic diseases, is isolated and identified. Further, functions of this mol. are analyzed. Moreover, it is found that an **antibody** against this mol. significantly ameliorates conditions of autoimmune diseases and allergic diseases. The cell surface mol.-recognizing monoclonal **antibodies JTT**-1 and **JTT**-2 were derived from hybridoma clone **JTT**-1 (FERM BP-5707) and **JTT**-2 (FERM BP-5708), and the novel antigens recognized by these **antibodies** were named **JTT**.1 antigen and **JTT**.2 antigen. Also described were mol. cloning of human and rat and mouse **JTT**.1 antigen, prepn. of fusion proteins contg. human **JTT**.1 antigen, prepn. of transgenic mice contg. cDNA encoding rat or mouse **JTT**.1 antigen, as well as prepn. of compn. contg. **antibodies JTT**-1 or **JTT**-2 against exptl. allergic encephalomyelitis.

L9 ANSWER 1 OF 11 MEDLINE
ACCESSION NUMBER: 2000048143 MEDLINE
DOCUMENT NUMBER: 20048143 PubMed ID: 10581066
TITLE: T-cell stimulation: an abundance of B7s.
COMMENT: Comment on: Nat Med. 1999 Dec;5(12):1365-9
AUTHOR: Abbas A K; Sharpe A H
SOURCE: NATURE MEDICINE, **(1999 Dec)** 5 (12) 1345-6.
Journal code: CG5; 9502015. ISSN: 1078-8956.
PUB. COUNTRY: United States
Commentary
News Announcement
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199912
ENTRY DATE: Entered STN: 20000113
Last Updated on STN: 20000113
Entered Medline: 19991229
TI T-cell stimulation: an abundance of B7s.

L9 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:795994 CAPLUS
DOCUMENT NUMBER: 132:31744
TITLE: Gene probes used for genetic profiling in healthcare screening and planning
INVENTOR(S): Roberts, Gareth Wyn
PATENT ASSIGNEE(S): Genostic Pharma Ltd., UK
SOURCE: PCT Int. Appl., 745 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
WO 9964627	A2	19991216	WO 1999-GB1780	19990604	<--

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:		
GB 1998-12099	A	19980606
GB 1998-13291	A	19980620
GB 1998-13611	A	19980624
GB 1998-13835	A	19980627
GB 1998-14110	A	19980701
GB 1998-14580	A	19980707
GB 1998-15438	A	19980716
GB 1998-15574	A	19980718
GB 1998-15576	A	19980718
GB 1998-16085	A	19980724
GB 1998-16086	A	19980724
GB 1998-16921	A	19980805
GB 1998-17097	A	19980807

GB 1998-17200 A 19980808
GB 1998-17632 A 19980814
GB 1998-17943 A 19980819

TI Gene probes used for genetic profiling in healthcare screening and planning

L9 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:795993 CAPLUS
DOCUMENT NUMBER: 132:31743
TITLE: Gene probes used for genetic profiling in healthcare screening and planning
INVENTOR(S): Roberts, Gareth Wyn
PATENT ASSIGNEE(S): Genostic Pharma Limited, UK
SOURCE: PCT Int. Appl., 149 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
WO 9964626	A2	19991216	WO 1999-GB1779	19990604	<--
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG					
AU 9941586	A1	19991230	AU 1999-41586	19990604	<--
AU 9941587	A1	19991230	AU 1999-41587	19990604	<--
GB 2339200	A1	20000119	GB 1999-12914	19990604	
EP 1084273	A1	20010321	EP 1999-925207	19990604	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					

PRIORITY APPLN. INFO.:
GB 1998-12098 A 19980606
GB 1998-28289 A 19981223
GB 1998-16086 A 19980724
GB 1998-16921 A 19980805
GB 1998-17097 A 19980807
GB 1998-17200 A 19980808
GB 1998-17632 A 19980814
GB 1998-17943 A 19980819
WO 1999-GB1779 W 19990604

TI Gene probes used for genetic profiling in healthcare screening and planning

L9 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:577016 CAPLUS
DOCUMENT NUMBER: 131:213102
TITLE: Binding proteins containing modified V-like domains, methods for their production, and pharmaceutical use
INVENTOR(S): Coia, Gregory; Galanis, Maria; Hudson, Peter John; Irving, Robert Alexander; Nuttall, Stewart Douglas
PATENT ASSIGNEE(S): Diatech Pty. Ltd., Australia

SOURCE: PCT Int. Appl., 115 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
WO 9945110	A1	19990910	WO 1999-AU136	19990305	<--

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9928204	A1	19990920	AU 1999-28204	19990305	<--
EP 1058728	A1	20001213	EP 1999-908689	19990305	

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI

PRIORITY APPLN. INFO.: AU 1998-2210 A 19980306
WO 1999-AU136 W 19990305

TI Binding proteins containing modified V-like domains, methods for their production, and pharmaceutical use

REFERENCE COUNT: 5
REFERENCE(S):
(1) Davies, J; Protein Eng 1996, V9(6), P531 CAPLUS
(2) Jung, S; Protein Eng 1997, V10(8), P959 CAPLUS
(3) Patten; J Immunol 1993, V150(6), P2281 CAPLUS
(4) Peach, R; J Exp Med 1994, V180(6), P2049 CAPLUS
(5) Protein Design Labs Inc; WO 91/10438 1991 CAPLUS

L9 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:549127 CAPLUS
DOCUMENT NUMBER: 131:183863
TITLE: Compositions and methods for regulating lymphocyte activation
INVENTOR(S): Ledbetter, Jeffrey A.; Hayden-Ledbetter, Martha; Brady, William A.; Grosmaire, Laura S.; Law, Che-Leung; Dua, Raj
PATENT ASSIGNEE(S): Xcyte Therapies, Inc., USA
SOURCE: PCT Int. Appl., 116 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
WO 9942077	A2	19990826	WO 1999-US3309	19990218	<--

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

NO 2000004095 A 20001018 NO 2000-4095 20000816

PRIORITY APPLN. INFO.: US 1998-75274 P 19980219
US 1998-108683 P 19981116
WO 1999-US3309 W 19990218

TI Compositions and methods for regulating lymphocyte activation

L9 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:464188 CAPLUS
DOCUMENT NUMBER: 131:101261
TITLE: Methods of using human receptor protein 4-1BB
INVENTOR(S): Kwon, Byoung S.
PATENT ASSIGNEE(S): Advanced Research and Technology Institute, Inc., USA
SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
WO 9936093	A1	19990722	WO 1999-US823	19990114	<--
W: AU, CA, JP					
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
US 6303121	B1	20011016	US 1998-7097	19980114	
AU 9923204	A1	19990802	AU 1999-23204	19990114	<--
EP 1045701	A1	20001025	EP 1999-903099	19990114	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					

PRIORITY APPLN. INFO.: US 1998-7097 A 19980114
US 1993-12269 A2 19930201
US 1993-122796 B2 19930916
US 1995-409851 B2 19950323
WO 1999-US823 W 19990114

TI Methods of using human receptor protein 4-1BB
REFERENCE COUNT: 5
REFERENCE(S):
(1) Debenedette, M; JOURNAL OF IMMUNOLOGY 1997, V158(2), P551 CAPLUS
(2) Indiana University Foundation; WO 9629348 A 1996 CAPLUS
(3) Jian, N; WO 9733898 A 1997 CAPLUS
(4) Melero, I; NATURE MED 1997, V3(6), P682 CAPLUS
(5) Shuford, W; JOURNAL OF EXPERIMENTAL MEDICINE 1997, V186(1), P47 CAPLUS

L9 ANSWER 7 OF 11 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 2000048154 MEDLINE
DOCUMENT NUMBER: 20048154 PubMed ID: 10581077
TITLE: B7-H1, a third member of the B7 family, co-stimulates T-cell proliferation and interleukin-10 secretion.
COMMENT: Comment in: Nat Med. 1999 Dec;5(12):1345-6
AUTHOR: Dong H; Zhu G; Tamada K; Chen L
CORPORATE SOURCE: Department of Immunology, Mayo Graduate and Medical

Schools, Mayo Clinic, 200 First Street SW, Rochester, Minnesota 55905, USA.
CONTRACT NUMBER: CA09127 (NCI)
CA79915 (NCI)
SOURCE: NATURE MEDICINE, **(1999 Dec)** 5 (12) 1365-9.
Journal code: CG5; 9502015. ISSN: 1078-8956.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF177937
ENTRY MONTH: 199912
ENTRY DATE: Entered STN: 20000113
Last Updated on STN: 20000113
Entered Medline: 19991229
TI B7-H1, a third member of the B7 family, co-stimulates T-cell proliferation
and interleukin-10 secretion.

L9 ANSWER 8 OF 11 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 2000083495 MEDLINE
DOCUMENT NUMBER: 20083495 PubMed ID: 10617205
TITLE: T-cell co-stimulation through B7RP-1 and **ICOS**.
AUTHOR: Yoshinaga S K; Whoriskey J S; Khare S D; Sarmiento U; Guo J; Horan T; Shih G; Zhang M; Coccia M A; Kohno T; Tafuri-Bladt A; Brankow D; Campbell P; Chang D; Chiu L; Dai
T; Duncan G; Elliott G S; Hui A; McCabe S M; Scully S; Shahinian A; Shaklee C L; Van G; Mak T W; +
CORPORATE SOURCE: Amgen Inc., Thousand Oaks, California 91320, USA.. syoshina@amgen.com
SOURCE: NATURE, **(1999 Dec 16)** 402 (6763) 827-32.
Journal code: NSC; 0410462. ISSN: 0028-0836.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200001
ENTRY DATE: Entered STN: 20000124
Last Updated on STN: 20000124
Entered Medline: 20000110
TI T-cell co-stimulation through B7RP-1 and **ICOS**.

L9 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:386078 CAPLUS
DOCUMENT NUMBER: 131:168884
TITLE: T cell co-stimulatory molecules other than **CD28**
AUTHOR(S): Watts, Tania H.; DeBenedette, Mark A.
CORPORATE SOURCE: Department of Immunology, University of Toronto, Toronto, ON, M5S 1A8, Can.
SOURCE: Curr. Opin. Immunol. (**1999**), 11(3), 286-293
CODEN: COPIEL; ISSN: 0952-7915
PUBLISHER: Current Biology Publications
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
TI T cell co-stimulatory molecules other than **CD28**
REFERENCE COUNT: 63

REFERENCE(S): (1) Abe, R; J Immunol 1995, V154, P985 CAPLUS
(2) Akiba, H; J Biol Chem 1998, V273, P13353 CAPLUS
(3) Arch, R; Mol Cell Biol 1998, V18, P558 CAPLUS
(4) Aversa, G; J Immunol 1997, V158, P4036 CAPLUS
(5) Avraham, A; Eur J Immunol 1998, V28, P2320 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 10 OF 11 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 1999127892 MEDLINE
DOCUMENT NUMBER: 99127892 PubMed ID: 9930702
TITLE: **ICOS** is an inducible T-cell co-stimulator structurally and functionally related to **CD28**.
AUTHOR: Hutloff A; Dittrich A M; Beier K C; Eljaschewitsch B; Kraft R; Anagnostopoulos I; Kroczek R A
CORPORATE SOURCE: Molecular Immunology, Robert Koch-Institut, Berlin, Germany.
SOURCE: NATURE, **(1999 Jan 21)** 397 (6716) 263-6.
Journal code: NSC; 0410462. ISSN: 0028-0836.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: PIR-S78540
ENTRY MONTH: 199902
ENTRY DATE: Entered STN: 19990301
Last Updated on STN: 19990301
Entered Medline: 19990218
TI **ICOS** is an inducible T-cell co-stimulator structurally and functionally related to **CD28**.

L9 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:680753 CAPLUS
DOCUMENT NUMBER: 132:221287
TITLE: A molecular model of inducible costimulator protein and three-dimensional analysis of its relation to the **CD28** family of T cell-specific costimulatory receptors
AUTHOR(S): Bajorath, Jurgen
CORPORATE SOURCE: New Chemical Entities, Inc., Bothell, WA, 98011-8805, USA
SOURCE: J. Mol. Model. (**1999**), 5(9), 169-176
CODEN: JMMOFK; ISSN: 0948-5023
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal; (online computer file)
LANGUAGE: English
TI A molecular model of inducible costimulator protein and three-dimensional analysis of its relation to the **CD28** family of T cell-specific costimulatory receptors
REFERENCE COUNT: 39
REFERENCE(S): (1) Aruffo, A; Proc Natl Acad Sci USA 1987, V84, P8573
CAPLUS
(2) Bairoch, A; Nucl Acid Res 1999, V27, P49 CAPLUS
(3) Bajorath, J; Bioconjug Chem 1995, V6, P3 CAPLUS
(4) Bajorath, J; J Biol Chem 1998, V273, P24603
CAPLUS
(5) Bajorath, J; J Mol Graph Model 1997, V15, P135

CAPLUS
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